



INFORMATION SCIENCES
AND
TECHNOLOGY



Building Leaders for the Digital Global Economy

<http://www.ds.psu.edu/ist>

PROGRAM GUIDE

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The philosophy of Penn State's School of Information Sciences and Technology (IST) is to build "Leaders for a Digital Global Economy". The IST faculty at Penn State DuBois models that belief by developing a curriculum that helps students develop the following skills:

- learning and managing the ever changing new technologies in the information technology field;
- bridging the communication gap between business professionals and information technology professionals;
- focusing on the application of technology as a solution;
- learning to work on industry problems in a team atmosphere; and
- polishing oral and written communication skills.

The Penn State DuBois campus offers three options of the IST Associate Degree (2 IST) and one option of the Bachelor of Science Degree (4 IST). The 2 IST degree options are *networking*, *generalized business*, and *baccalaureate* and the 4 IST degree option is the Information Technology: Integration & Application Option. Each option has the same core introductory courses. These courses include an introduction to IST, database design, webpage development, and networking. Along with these introductory courses, each student takes a software development course. This course consists of multiple industry projects that students will study and learn to manage.

The first 2 IST option is *networking*, which trains students for entry into the fields of network administration and systems support. Coursework includes PC hardware, networking essentials, network administration, and other supporting topics. The campus has an interactive networking lab equipped to provide students hands on activities to expand upon classroom theories of networking. These activities aid students in dealing with real world problems, situations and solutions and allow learning to happen beyond simply "chalk and talk" of the traditional college classroom. The layout of the lab is such that each row becomes a local area network containing five workstations and a server class machine in a server rack. Each rack contains network equipment including a switch, multiple hubs, and a router. This is very typical of what students will encounter in the workplace.

In addition to the network lab, the program has two other dedicated IST computer labs. The first lab is the software lab where students learn application skills including database and website development. The second dedicated IST computer lab is the teardown lab specifically designed to allow students to dismantle PCs, servers and other hardware devices, to create fiber optic cables and conduct other lab exercises needing specialized tools.

Having graduated with an IST networking associate degree from Penn State DuBois, the student will be able to do the following:

- install, manage, and troubleshoot PCs with multiple operating systems including Microsoft Windows, different flavors of Linux, and OSX;
- develop an in-dept network design;
- transfer the network design to Netcracker, a network simulator, and to test their design;
- run network cable (CAT 6 and fiber optic);

- design, implement, and manage networks using Microsoft Server and Red Hat Linux;
- configure and manage hubs, switches, routers, and other network equipment using Routersim and Network Visualizer (Cisco network simulators) and performing the same tasks on the actual equipment in the lab;
- plan and implement wireless networks;
- implement the following specialize servers:
 - web servers (Microsoft IIS and Red Hat);

- email servers (Microsoft Exchange server);
- database servers (Microsoft SQL server);
- ftp servers (Microsoft IIS and Red Hat);
- Microsoft Dynamics Great Plains (GP);
- Microsoft Dynamics Retail Management System (RMS);
- use Microsoft Project to manage projects.

An overview schedule of the network option is attached in Appendix A1 and descriptions of the courses are located in Appendix B. Appendix D consists of a partial list of possible job titles for which networking graduates may qualify.

Through the *generalized business option* students can increase their knowledge of information systems while furthering their studies in the business areas of management, accounting, and marketing. The overview of this program option is included in Appendix A2.

Lastly, Penn State DuBois offers a *baccalaureate option* that allows students to graduate with an associate degree in IST which then fulfills the requirements for the first 2 years of the Bachelors of Science degree in IST. Appendix A3 contains this option's sequence of courses.

The DuBois campus offers the Information Technology Integration option of the 4 IST degree. The Information Technology Integration option prepares students to use information technology as solutions to industry problems. Appendix A6 contains the recommended academic plans for the major. Appendix A7 is the recommended academic plan that allows a student to finish the IST networking associate degree and the 4 year IST Information Technology Integration degree in 4 years.

An IST degree student must complete an internship. For the 2 IST degree, students must complete IST 295A or 295B, both of which are one credit courses which entail 150 internship hours. For the 4 IST degree students must complete IST 495. IST 495 is a one credit course which entail 300 internship hours.

The intern is required to perform the following activities:

- keep a daily log;
- get a mid-point and a final evaluation from their internship supervisor;
- write a mid-point and final paper on the internship experience; and
- give a 5 to 10 minute presentation on their internship experience to an IST class.

A Penn State DuBois IST student has many resources at their disposal. These include hardware and software used in industry, online Information Technology Certifications preparatory courses, and other materials. Detailed lists of these resources are located in Appendix C.

After receiving an associate degree from Penn State DuBois, students have the ability to further their studies by enrolling in an IST four year degree at another Penn State campus including University Park. The Penn State DuBois campus offers students the introductory courses for the IST four year degrees. Appendix A4 contains the schedule of the first 2 years of those introductory courses. For those students who want the baccalaureate degree and networking courses from the networking option, Appendix A5 contains a suggested schedule.

Penn State DuBois offers another option for those IST students who want a baccalaureate degree after receiving an associate degree in IST and wants to stay at the DuBois campus. The departments

of IST and Business collaborated to offer an IST/Business 2+2 degree option. In four years, a student can receive an associate degree in IST and a baccalaureate degree in Business. Appendix A8 contains the suggested schedule for those students who are interested in this option.

Another option for DuBois IST students is to earn a bachelors of Arts in Letters, Arts, and Sciences. Along with the associates in IST, the Letters, Arts, and Sciences program helps graduates prepare for careers that require creativity, thought, and the ability to work with a wide range of people. A suggested schedule for this option is available upon request.

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Appendix A1. Network Option
Networking Option

Credits 60

The Networking Option trains students for entry into network administration and systems support fields.

Semester 1	Credits	Semester 2	Credits
IST 110 (GS) Information, People and Technology	3	IST 210 Organization of Data	4
IST 111 Seminar in IST	1	IST 220 Networking and Telecommunications	3
IST 250 New Media and the Web	3	MATH 017, 021, 022, 026	3
CMPSC 101 (GQ) Intro to Algorithmic Processes	3	CAS 100 (GWS) Effective Speech	3
ENGL 015 (GWS) Rhetoric and Composition	3	GEN ED - (GN) Natural Sciences	3
Total Credits:	13	Total Credits:	16
Semester 3	Credits	Semester 4	Credits
IST 225 PC Hardware Basics	3	IST 227 Network Administration	3
IST 226 Networking Essentials	3	IST 228 Advanced Network Administration	3
IST 260W Intro to Systems Analysis and Design	3	GEN ED - (GS) Social and Behavioral Sciences	3
GEN ED - (GA) Arts	3	ENGL 202C or 202D (GWS) Effective Writing	3
GEN ED - (GH) Humanities	3	(US/IL/US;IL) United States/International Cultures	3
Total Credits:	15	Total Credits:	15
Internship	Credits		
IST 295 (Taken any time)	1		

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- GWS, GHA, GQ, GN, GA, GH, and GS are codes used to identify General Education requirements.
- US, IL, and US;IL are codes used to designate courses that satisfy University United States/International Cultures requirements.
- W is the code used to designate courses that satisfy University Writing Across the Curriculum requirement.

Program Notes: *As long as two Arts (GA) and two Humanities (GH) are taken across the eight semesters, the particular order in which these courses are taken is not relevant. The course series listed above is only one of many possible ways to move through the BB H curriculum.

Academic Advising Notes: A student's career/graduate school plans should be considered in developing an individual academic plan. Be sure to consult an adviser in this department when scheduling courses.

Appendix A2. Generalized Business Option

Business Option

Credits 60

The Business Option allows students to specialize in business areas of accounting, marketing, and management.

Semester 1	Credits	Semester 2	Credits
IST 110 (GS) Information, People and Technology	3	IST 210 Organization of Data	4
IST 111 Seminar in IST	1	IST 220 Networking and Telecommunications	3
IST 250 New Media and the Web	3	Business Option*	3
<i>CMPSC 101 (GQ)</i> Intro to Algorithmic Processes	3	CAS 100 (GWS) Effective Speech	3
ENGL 015 (GWS) Rhetoric and Composition	3	GEN ED - (GN) Natural Sciences	3
Total Credits:	13	Total Credits:	16
Semester 3	Credits	Semester 4	Credits
Business Option*	3	Business Option*	3
Business Option*	3	Business Option*	3
IST 260W Intro to Systems Analysis and Design	3	GEN ED - (GS) Social and Behavioral Sciences	3
GEN ED - (GA) Arts	3	ENGL 202C or 202D (GWS) Effective Writing	3
GEN ED - (GH) Humanities	3	(US/IL/US;IL) United States/International Cultures	3
Total Credits:	15	Total Credits:	15
Internship	Credits		
IST 295 (Taken any time)	1		

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- US, IL, and US;IL are codes used to designate courses that satisfy University United States/International Cultures requirements.
- W is the code used to designate courses that satisfy University Writing Across the Curriculum requirement.

Program Notes: *As long as two Arts (GA) and two Humanities (GH) are taken across the eight semesters, the particular order in which these courses are taken is not relevant. The course series listed above is only one of many possible ways to move through the BB H curriculum.

Academic Advising Notes: A student's career/graduate school plans should be considered in developing an individual academic plan. Be sure to consult an adviser in this department when scheduling courses.

*Must 15 credits in the following list:

ACCTG 151, 152, 153, 160, 170, 186, 200, 211
 MKTG 150, 180, 190, 220, 221, 310, 327
 MGMT 100, 150, 321, 341
 BA 250
 ECON 002, 004, 014
 MATH 021, 022, 026

Appendix A3. Baccalaureate Option

Baccalaureate Option

Credits 67

The Baccalaureate Option allows students to graduate with an associate degree in IST which fulfills the requirements of the first two years of the Bachelor of Science degree in IST.

Semester 1	Credits	Semester 2	Credits
IST 110 (GS) Information, People and Technology	3	IST 210 Organization of Data	4
IST 111 Seminar in IST	1	IST 220 Networking and Telecommunications	3
IST 250 New Media and the Web	3	Math 022 (GQ) Algebra II and Analytic Geometry	3
CMPSC 101 (GQ) Intro to Algorithmic Processes	3	CAS 100 (GWS) Effective Speech	3
ENGL 015 (GWS) Rhetoric and Composition	3	GEN ED - (GN) Natural Sciences	3
Math 021 (GQ) College Algebra I	3		
Total Credits:	16	Total Credits:	16
Semester 3	Credits	Semester 4	Credits
STAT 200 (GQ)	3	IST 230 Language, Logic, and Discrete Math	3
<i>ECON 014, 102, 104 (GS)</i>	3	IST 240 Introduction to Computer Languages	3
MATH 110 or 140+ (GQ) Calculus	4	GEN ED - (GS) Social and Behavioral Sciences	3
IST 260W Intro to Systems Analysis and Design	3	ENGL 202C or 202D (GWS) Effective Writing	3
GEN ED - (GA) Arts	3	(US/IL/US;IL) United States/International Cultures	3
GEN ED - (GH) Humanities	3		
Total Credits:	19	Total Credits:	15
Internship	Credits		
IST 295 (Taken any time)	1		

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Program Notes: *As long as two Arts (GA) and two Humanities (GH) are taken across the eight semesters, the particular order in which these courses are taken is not relevant. The course series listed above is only one of many possible ways to move through the BB H curriculum.

Academic Advising Notes: A student's career/graduate school plans should be considered in developing an individual academic plan. Be sure to consult an adviser in this department when scheduling courses.

Appendix A4. First 2 Years of the Baccalaureate Degree

Semester 1	Credits	Semester 2	Credits
IST 110 (GS) Information, People and Technology	3	IST 210 Organization of Data	4
IST 111 Seminar in IST	1	IST 220 Networking and Telecommunications	3
IST 250 New Media and the Web	3	Math 022 (GQ) Algebra II and Analytic Geometry	3
<i>CMPSC 101 (GQ)</i> Intro to Algorithmic Processes	3	CAS 100 (GWS) Effective Speech	3
ENGL 015 (GWS) Rhetoric and Composition	3	GEN ED - (GN) Natural Sciences	3
Math 021 (GQ) College Algebra I	3		
Total Credits:	16	Total Credits:	16
Semester 3	Credits	Semester 4	Credits
STAT 200 (GQ)	3	IST 230 Language, Logic, and Discrete Math	3
<i>ECON 014, 102, 104 (GS)</i>	3	IST 240 Introduction to Computer Languages	3
MATH 110 or 140+ (GQ) Calculus	4	GEN ED - (GS) Social and Behavioral Sciences	3
GEN ED - (GA) Arts	3	ENGL 202C or 202D (GWS) Effective Writing	3
GEN ED - (GH) Humanities	3	(US/IL/US;IL) United States/International Cultures	3
Total Credits:	16	Total Credits:	15

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 - US, IL, and US;IL are codes used to designate courses that satisfy University United States/International Cultures requirements.
 - W is the code used to designate courses that satisfy University Writing Across the Curriculum requirement.
- Program Notes:** *As long as two Arts (GA) and two Humanities (GH) are taken across the eight semesters, the particular order in which these courses are taken is not relevant. The course series listed above is only one of many possible ways to move through the BB H curriculum.

Academic Advising Notes: A student's career/graduate school plans should be considered in developing an individual academic plan. Be sure to consult an adviser in this department when scheduling courses.

Appendix A5. First 2 Years of the Baccalaureate Degree and Networking Courses

Semester 1	Credits	Semester 2	Credits
IST 110 (GS) Information, People and Technology	3	IST 210 Organization of Data	4
IST 111 Seminar in IST	1	IST 220 Networking and Telecommunications	3
GEN ED - (GH) Humanities	3	Math 022 (GQ) Algebra II and Analytic Geometry	3
GEN ED - (GN) Natural Sciences	3	CAS 100 (GWS) Effective Speech	3
ENGL 015 (GWS) Rhetoric and Composition	3	(IL) International Cultures	3
Math 021 (GQ) College Algebra I	3	<i>ECON 014, 102, 104 (GS)</i>	3
Total Credits:	16	Total Credits:	19
Semester 3	Credits	Semester 4	Credits
IST 225 PC Hardware Basics	3	IST 227 Network Administration	3
IST 226 Networking Essentials	3	IST 228 Advanced Network Administration	3
GEN ED - (GA) Arts	3	<i>CMPSC 101 (GQ)</i> Intro to Algorithmic Processes	3
ENGL 202C or 202D (GWS) Effective Writing	3	IST 230 Language, Logic, and Discrete Math	3
MATH 110 or 140+ (GQ) Calculus	4	IST 240 Introduction to Computer Languages	3
Total Credits:	16	Total Credits:	15
2-Year IST in Networking Complete			

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- W is the code used to designate courses that satisfy University Writing Across the Curriculum requirement.

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Academic Advising Notes: A student's career/graduate school plans should be considered in developing an individual academic plan. Be sure to consult an adviser in this department when scheduling courses.

Appendix A6. 4-IST Information Technology Integration Option (IT-TINT)

4-IST Information Technology Integration Option (IT-TINT)

Effective Fall 2007 (DuBois)

Credits 125

This four year IST degree option is to prepare students to use information technology as solutions to industry problems.

Semester 1	Credits	Semester 2	Credits
IST 110 (GS) Information, People and Technology	3	IST 210 Organization of Data	4
IST 111 Seminar in IST	1	IST 220 Networking and Telecommunications	3
GEN ED - (GH) Humanities	3	Math 022 (GQ) Algebra II and Analytic Geometry	3
GEN ED - (GN) Natural Sciences	3	CAS 100 (GWS) Effective Speech	3
ENGL 015 (GWS) Rhetoric and Composition	3	(IL) International Cultures	3
Math 021 (GQ) College Algebra I	3		
Total Credits:	16	Total Credits:	16
Semester 3	Credits	Semester 4	Credits
STAT 200 (GQ)	4	SUPPORT OF OPTION	3
GEN ED - (GH) Humanities	3	GEN ED - (GA) Arts	3
MATH 110 or 140+ (GQ) Calculus	4	<i>ECON 014, 102, 104 (GS)</i>	3
ENGL 202C or 202D (GWS) Effective Writing	3	CMPSC 101 (GQ) Intro to Algorithmic Processes	3
		IST 240 Introduction to Computer Languages	3
Total Credits:	14	Total Credits:	15
Semester 5	Credits	Semester 6	Credits
IST 230 Language, Logic, and Discrete Math	3	IST 331 Organization and Design of IS	3
IST 301 Information and Organizations	3	IST 420 Systems and Enterprise Integration	3
IST 302 IT Project Management	3	GEN ED - (GN) Natural Sciences	3
FOREIGN LANG. 1	4	FOREIGN LANG. 2	4
GEN ED - (GS) Social and Behavioral Sciences	3	GEN ED - (GA) Arts	3
Total Credits:	16	Total Credits:	16
Semester 7	Credits	Semester 8	Credits
IST 402 Emerging Issues and Technologies	3	IST 440W IST Integration and Problem Solving	3
IST 421 Advanced Enterprise Integration	3	SUPPORT OF OPTION	3
GEN ED - KINESIOLOGY (GHA)	3	SUPPORT OF OPTION	3
FOREIGN LANG. 3	4	SUPPORT OF OPTION	3
(IL) International Cultures	3	GEN ED - (GN) Natural Sciences	3
Total Credits:	16	Total Credits:	15
Internship	Credits		
IST 495 (Taken any time)	1		

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Program Notes: *As long as two Arts (GA) and two Humanities (GH) are taken across the eight semesters, the particular order in which these courses are taken is not relevant. The course series listed above is only one of many possible ways to move through the IST curriculum.

Academic Advising Notes: A student's career/graduate school plans should be considered in developing an individual academic plan. Be sure to consult an adviser in this department when scheduling courses.

Appendix A7. 2-Year Networking Option + 4-IST Information Technology Integration Option (IT-TINT)

Credits 103

Semester 1	Credits	Semester 2	Credits
IST 110 (GS) Information, People and Technology	3	IST 210 Organization of Data	4
IST 111 Seminar in IST	1	IST 220 Networking and Telecommunications	3
IST 250 New Media and the Web	3	Math 022 (GQ) Algebra II and Analytic Geometry	3
GEN ED - (GN) Natural Sciences	3	CAS 100 (GWS) Effective Speech	3
ENGL 015 (GWS) Rhetoric and Composition	3	(IL) International Cultures	3
Math 021 (GQ) College Algebra I	3	GEN ED - (GH) Humanities	3
Total Credits:	16	Total Credits:	19
Semester 3	Credits	Semester 4	Credits
IST 225 PC Hardware Basics	3	IST 227 Network Administration	3
IST 226 Networking Essentials	3	IST 228 Advanced Network Administration	3
IST 260W Intro to Systems Analysis and Design	3	<i>ECON 014, 102, 104 (GS)</i>	3
GEN ED - (GA) Arts	3	CMPSC 101 (GQ) Intro to Algorithmic Processes	3
ENGL 202C or 202D (GWS) Effective Writing	3	IST 240 Introduction to Computer Languages	3
MATH 110 or 140+ (GQ) Calculus	4		
Total Credits:	19	Total Credits:	15
2-Year IST in Networking Complete			
Semester 5	Credits	Semester 6	Credits
IST 230 Language, Logic, and Discrete Math	3	IST 331 Organization and Design of IS	3
IST 301 Information and Organizations	3	IST 420 Systems and Enterprise Integration	3
IST 302 IT Project Management	3	GEN ED - (GN) Natural Sciences	3
FOREIGN LANG. 1	4	FOREIGN LANG. 2	4
GEN ED - (GS) Social and Behavioral Sciences	3	STAT 200 (GQ)	4
Total Credits:	16	Total Credits:	17
Semester 7	Credits	Semester 8	Credits
IST 402 Emerging Issues and Technologies	3	IST 440W IST Integration and Problem Solving	3
IST 421 Advanced Enterprise Integration	3	SUPPORT OF OPTION	3
GEN ED - KINESIOLOGY (GHA)	3	SUPPORT OF OPTION	3
FOREIGN LANG. 3	4	GEN ED - (GA) Arts	3
(IL) International Cultures	3	GEN ED - (GN) Natural Sciences	3
Total Credits:	16	GEN ED - (GH) Humanities	3
		Total Credits:	18
Internship	Credits		
IST 495 (Taken any time)	1		

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Appendix B. IST Courses

IST 110: Introduction to Information Sciences and Technology

- Introduction to information systems including social implications, and the creation, organization, analysis, storage, retrieval, and communication of information.

IST 111: Seminar in IST

- Introduction to academic requirements, career planning, and information literacy for students majoring in the School of Information Sciences and Technology.

IST 210: Organization of Data

- Introduction to concept of databases including the storage, manipulation, evaluation, and display of data and related issues.
- Prerequisite: IST 110

IST 220: Networking and Telecommunications

- Introduction to digital network topologies; transmission media; signal modulation; digital packet switching and routing; systems integration; communications management; security.
- Prerequisite: IST 110

IST 225: PC Hardware Basics

- Preparation for PC hardware support; students learn data recovery and how to build, configure, upgrade, troubleshoot, diagnose, and repair PC's.
- Prerequisite: IST 220

IST 226: Networking Essentials

- Concepts for peer-to-peer and server-based network; ISO-OSI reference model, industry standards, troubleshooting, performance monitoring, optimization.
- Prerequisite: IST 220

IST 227: Network Administration

- Administering peer-to-peer and client/server networks; planning, installation, server configuration, resource management, remote access, performance monitoring, and optimization.
- Prerequisite: IST 226

IST 228: Advanced Network Administration

- TCP/IP planning, installation, configuration; IP addressing, subnetting, routing, DHCP, WINS, address/name resolution, DNS; database, web, mail server management.
- Prerequisite: IST 226

IST 230: Language, Logic, and Discrete Mathematics

- Introduction to formal languages, mathematical logic, and discrete mathematics, with applications to information sciences and technology.
- Prerequisite: Math 110 or Math 140.

IST 240: Introduction to Computer Languages

- Introduction to the specification and application of languages and language paradigms which interact with computers. Prerequisite
- CMPSC 101; prerequisite or concurrent: IST 230.

IST 250: New Media and the Web

- Introduction to how the world wide web utilizes emerging technologies. Students acquire conceptual understanding of constructing web sites.
- Prerequisite: IST 110 or concurrent enrollment

IST 260W: Introduction to Systems Analysis and Design

- Introduction to systems analysis and design stressing the process of requirements acquisition, specification, design, and implementation.
- Prerequisite: IST 110

IST 295A: Distributed Team Project

- Supervised experience where teams of students work on information system design projects gathered from industry or units within the university.
- Prerequisite: IST 110

IST 295B: IST Internship

- Supervised work experience where the student is employed in an information science and technology position in industry, government, or academia.
- Prerequisite: IST 110

IST 230: Language, Logic, and Discrete Mathematics

- Introduction to formal languages, mathematical logic, and discrete mathematics, with applications to information sciences and technology.
- Prerequisite: Math 110 or Math 140.

IST 240: Introduction to Computer Languages

- Introduction to the specification and application of languages and language paradigms which interact with computers. Prerequisite
- Prerequisite: CMPSC 101; or concurrent: IST 230.

IST 301: Information and Organizations

- Overview of organizational structures and functions. Includes information processing and analytic perspectives of organizations.
- Prerequisite: IST 210, IST 220.

IST 302: IT Project Management

- Exploration and application of the basic concepts, methodologies, and tools of project management in the field of information sciences and technology.
- Prerequisite: IST 210, IST 220.

IST 331: Organization and Design of IS

- Interdisciplinary survey of topics related to the use and usability of information systems.
- Prerequisite: IST 230.

IST 402: Emerging Issues and Technologies

- Introduction to emerging issues, technology forecasting and analysis; overview of emerging issues and leading technologies in IST and how they impact information systems, users, the IT labor force and society.
- Prerequisite: IST 210, IST 220.

IST 420: Systems and Enterprise Integration

- Introductory course on integration of information technology into different venues, including the planning, development, and implementation of the integration.
- Prerequisite: IST 240, IST 301, IST 302.

IST 421: Advanced Enterprise Integration

- Advanced course on the integration of information technology into systems applications.
- Prerequisite: IST 240.

IST 440W: IST Integration and Problem Solving

- Problem-based approach to technology integration by focussing on real-life problems faced by an organization.
- Prerequisite: ENGL 202C or ENGL 202D seventh-semester standing (this course is intended for seniors) and the five common course requirements plus at least three of the required courses in an option.

Appendix C. Recourses

C1: Software List

Below is a list of software used in the IST LABs.

Operating systems	Software
Microsoft Server	Microsoft Expression Web
Microsoft Windows	Microsoft Office
Free BSD	Microsoft Project
Red Hat Linux	Microsoft Visio
Mandrake Linux	Microsoft Visual Studio
Susie Linux	Symantec Ghost 7.5
Apple OSX	Symantec Ghost 7.0
	RouterSim CCNA Sim 3.2
	DVD/ISO creators
	NetCracker Professional 4.1
	Network Visualizer
	Microsoft Exchange Server
	Microsoft SQL Server
	Nero
	GIS - ArcView
	Project Server
	Hyper-V
	Microsoft Dynamics Great Plains (GP)
	Microsoft Dynamics Retail Management Mystem (RMS)

Most of the software is available through the MSDN Academic Alliance program. Being enrolled in a Penn State IST program allows students to download and install a selected list of software at home for coursework purposes. The list of software is available at the following website: http://msdn07.e-academy.com/psu_dbs

C2: Workstation/Server/Printer List

Make	Model
Dell	OptiPlex 980
Dell	OptiPlex 745
Dell	PowerEdge R710
Apple	
Dell	LaserJet W5300
HP	Tablet PC

C3: Network Hardware List

Make	Model
Cisco	2800 series modular switch
Cisco	2600 series modular switch
Cisco	Cisco Catalyst 2950 series switch
Cisco	Cisco Catalyst 3750 series switch
Cisco	ASA 5540 Firewall
Fluke Networks	OptiView Series III Workgroup Analyzer
Fluke Networks	OptiView Reporter
Fluke Networks	Netflow Tracker
Fluke Networks	EtherScope analyzer

C4: Other Software List

Make	Model
Wildpackets	OmniPeek Network Analyzer
Skype	Skype
SiSoftware Zone	Sandra
Fog Project	FOG
TrueCrypt	TrueCrypt
Colasoft	Capsa Packet Sniffer
SMART	SyconEyes

C5: Other Resources

ITS Free Technology Seminar Handouts

ITS Training Services provides learning opportunities in technology to students, faculty, and staff to facilitate learning, teaching, and professional development activities. ITS provides handouts to some of those seminars for free. The website for these handouts is as follows: <http://its.psu.edu/training/resources/handouts/index.html>

Appendix D. Job Titles

Advanced Engineering Aide
Assistant Network/Systems Administrator
Client Services Analyst
Computer Network Technician
Data Center Technician
Desktop Support
Field Technician
Field Technology Analyst
Help Desk Analyst
Help Desk Representative
Help Desk Specialist
Help Desk Support
Help Desk Support Specialist
Help Desk Technician
Help Desk/PC Technician
I.S. Tech Specialist/Network Administrator
IT Business Analyst
IT manager & design specialist
IT Support
IT Support Center Representative
Junior Network Administrator
Junior Network Engineer
Junior Systems Administrator
LAN/WAN Engineer
Micro/PC Technician
Network Administrator area
Network Communications Analyst
Network Support Technician
PC Hardware Technician
PC Install Technician
PC Specialist I
PC Support Technician
PC/Software Support
PC/Software Test Technician
Quality Assurance Technician
Software & Technical Support Specialist
Technical Service Representative
Technical Support Representative
Technical Support Specialist
Windows Applications Specialist

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